



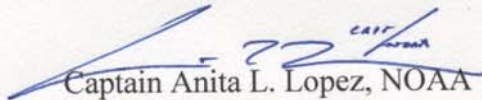
UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration
NOAA Marine and Aviation Operations
Marine Operations Center
439 W. York Street
Norfolk, VA 23510-1114

MEMORANDUM FOR: Lieutenant Commander Nicholas Chrobak, NOAA
Commanding Officer, NOAA Ship *Nancy Foster*

JUN 28 2013

FROM:


Captain Anita L. Lopez, NOAA

Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT:

Project Instruction for NF-13-07
EPA Region 3 Dam Neck Ocean Disposal Site, Coastal Eutrophication
and Ocean Acidification Study

Attached is the final Project Instruction for NF-13-07, EPA Region 3 Dam Neck Ocean Disposal Site, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 12 July – 23 July, 2013. Of the 12 DAS scheduled for this project, 12 DAS are program funded by EPA and 0 DAS are base funded. This project is estimated to exhibit a Medium Operational Tempo. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.

Attachment

cc:

MOA1





EPA Region 3 Project Instructions

Date Submitted: June 14, 2013

JUN 28 2013

Platform: NOAA Ship *Nancy Foster*

Project Number: NF-13-07

Project Title: EPA Region 3 Dam Neck Ocean Disposal Site, Coastal Eutrophication, and Ocean Acidification Study

Project Dates: July 14th, 2013 to July 23rd, 2013 ^{12th}

Prepared by: *Renee Searfoss* Dated: 6/19/13
Renee Searfoss
Chief Scientist
EPA Region 3

Approved by: *John R. Pomponio* Dated: 6/19/13
John R. Pomponio
Director
Environmental Assessment and Innovation Division

Approved by: *Anita L. Lopez* Dated: 28 JUN 13
Captain Anita L. Lopez, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

Below is a brief summary of each of the operations intended on being implemented during Region 3's time aboard *Nancy Foster*. The project period is from July 14th through the 23rd, including time associated with ship transit, mobilizing, and demobilizing.

Mobilization Date: 14 July 2013

Mobilization Time: 1400

Location: Norfolk, VA

*Due to the 5.5 to 6 hour commute from Philadelphia to Norfolk, combined with severe cuts in travel funding, the scientists will be driving south to meet the ship on the morning of mobilization.

Planned Survey Duration (days): 7

Allowable Weather/Breakdown Days: none

Demobilization Date: 21 July 2013

Mobilization Time: 1400

Location: Norfolk, VA

Prioritization of the projects is listed in order of most important to least important. Therefore, the collection of sediment samples and water samples at the Dam Neck Ocean Disposal Site is the most important aspect of this survey and must be completed prior to considering moving along the coast to collect the nutrient samples (lower priority) and/or the ocean acidification samples (lowest priority). The order of the stations can be discussed with the ship crew and chief scientist either prior to the survey or immediately after mobilization.

I. Dam Neck Ocean Disposal Site Survey

The objective is to continue the monitoring of the biennial survey of the Dam Neck Ocean Disposal Site, used for the disposal of dredged material, located south of the mouth of the Chesapeake Bay and approximately 3.5 miles off the coast of Virginia. The survey is part of a requirement for use of the site under the Site Management and Monitoring Plan required under the Water Resources Development Act.

II. Coastal Eutrophication

Region 3 continues to collect water quality samples along the Mid-Atlantic Bight. Over 20 years' worth of data have been collected and will be utilized to determine whether any long term statistically significant changes in nutrient concentrations can be noted. This data is being prepared as part of a Region 3 State of the Oceans report and will be available to the public once the report goes through the peer review process.

III. Ocean Acidification Study

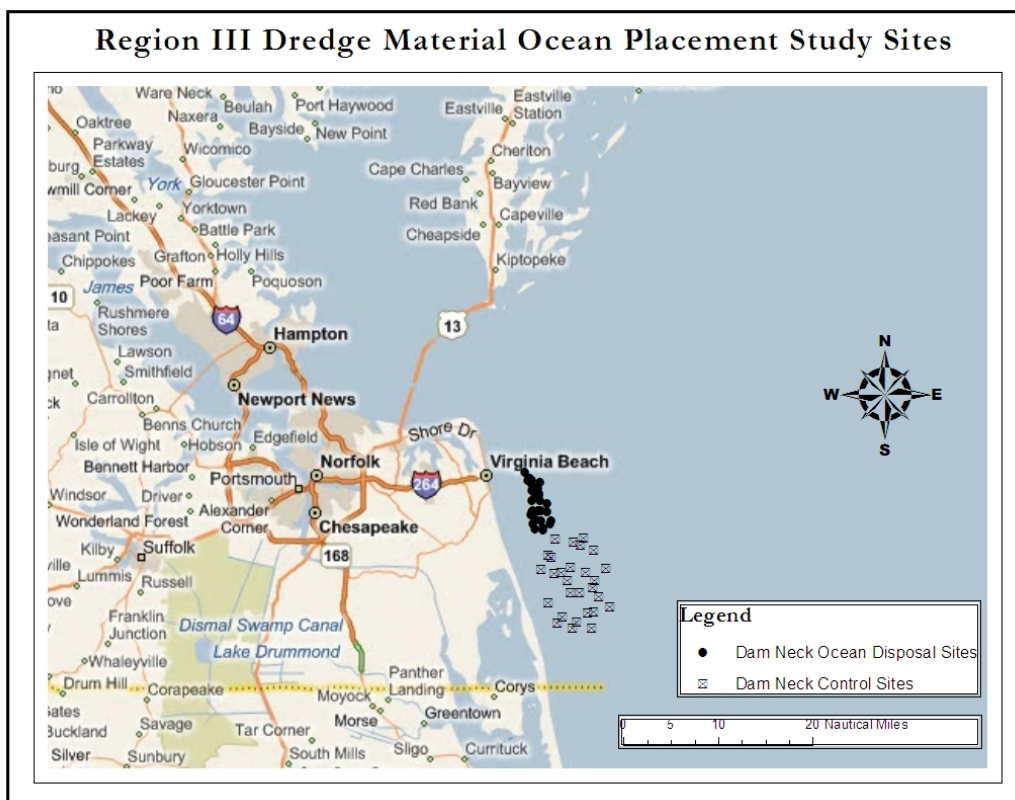
The ocean plays an important role in regulating the amount of carbon dioxide in the atmosphere. As atmospheric concentrations increase, the ability for the ocean to absorb more carbon dioxide decreases. Surface, mid-thermocline, and bottom samples will be collected along three identified transects. The objective is to collect baseline data for pH in the Mid-Atlantic Bight.

B. Service Level Agreements

The days aboard the ship is being program funded through EPA HQ. All analytical tests associated with the water and sediment samples being collected aboard the ship are also being funded by EPA HQ through two different contracts.

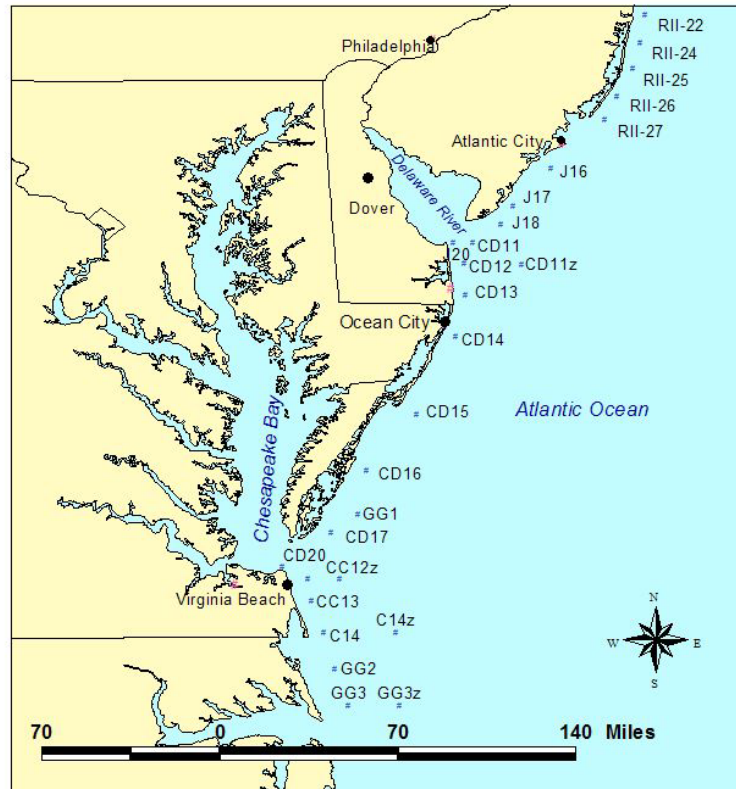
C. Operating Area (include optional map/figure showing op area)

I. Dam Neck Ocean Disposal Sampling Area



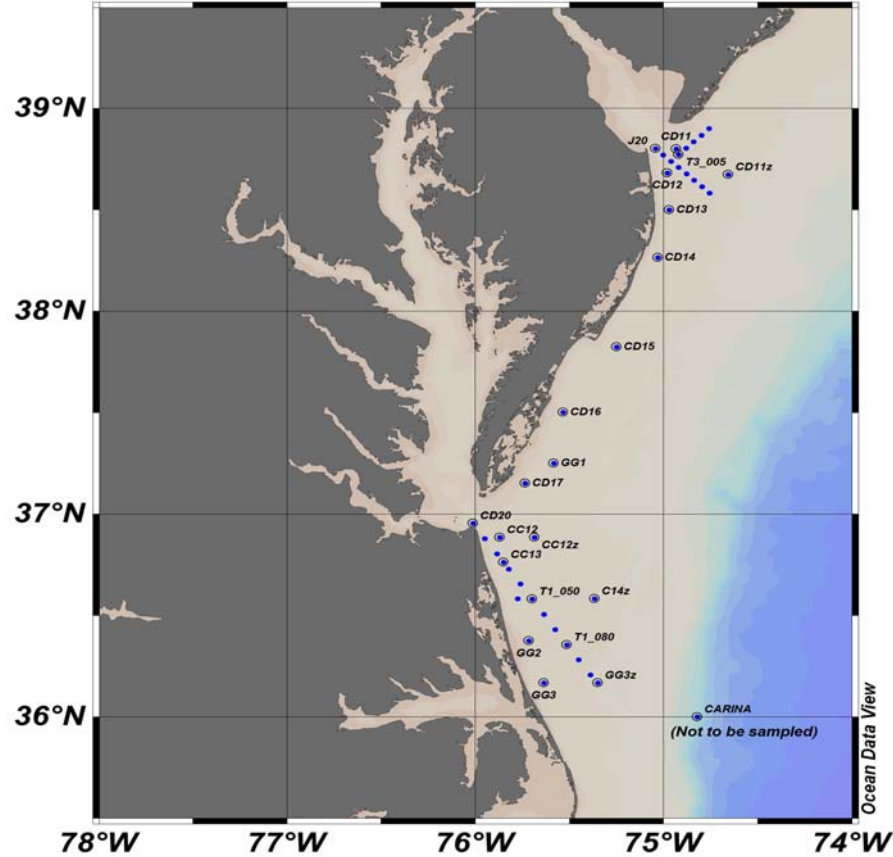
*The points on the Dam Neck ocean disposal map are for reference only and do not reflect the actual locations of the sampling points for this survey. The actual coordinates are located in Appendix A.

II. Coastal Eutrophication Locations (excluding J-18 through RII-22)



*Stations J18 north through RII-22 will not be sampled during this survey. The coordinates and identification of each station to be visited is listed in Appendix B.

II. Ocean Acidification Study



D. Summary of Objectives

I. Collect data in order of highest to lowest priority:

a. Dam Neck Ocean Disposal Site (water and sediment samples)

The objective of the data collection at the Dam Neck disposal site is to collect sediment samples for total organic carbon, metals, grain size and benthics. Water quality parameters are also recorded at the site. This data will be compared to data collected 2 years ago at this site to determine if the conditions at the site are degrading as a result of the placement of dredge material. If degradation is detected, environmental management decisions will need to be made regarding the use of the site and the protection against further degradation. Success is measured by collecting all 50 samples at the approximate locations for further analysis.

b. Coastal Eutrophication (water samples)

Water quality samples will be collected at the surface and middle of the thermocline along the Mid-Atlantic Bight. These samples provide EPA with information regarding total and dissolved nutrient concentrations. These concentrations can help provide the Agency with information regarding estuarine influences on the near coastal environment. It also helps in determining whether there has been an increase or decrease in nutrient concentrations over the years. Success is measured by the collection of all of the samples at the identified stations.

c. Ocean Acidification (water samples)

Water quality samples will be collected at the meter increments identified in the Appendix. Surface, mid-thermocline, and bottom samples will be collected and preserved for future analysis. The objective is to create baseline data of the pH of the Mid-Atlantic Bight waters for future comparison. This project is ranked as the lowest priority, so success will be characterized as collecting information for at least one of the three transects. Ideally, it would be beneficial to collect data in all three transects, but time and weather will most likely make that determination for science.

E. Participating Institutions

The U.S. Environmental Protection Agency.

F. Personnel/Science Party: name, title, gender, affiliation, and nationality

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Searfoss, Renee	Chief Scientist	July 14, 2013	July 21, 2013	F	EPA	American
Rome Arquines	Scientist	July 14, 2013	July 21, 2013	M	EPA	American
Treda Grayson	Scientist	July 14, 2013	July 21, 2013	F	EPA	American
Steve Donohue	Scientist	July 14, 2013	July 21, 2013	M	EPA	American
David Rider	Scientist	July 14, 2013	July 21, 2013	M	EPA	American
Sherilyn Morgan	Scientist (second in command)	July 14, 2013	July 21, 2013	F	EPA	American
Rose Krakowiak	Scientist	July 14, 2013	July 21, 2013	F	EPA	American

Cathleen Van Osten	Scientist	July 14, 2013	July 21, 2013	F	EPA	American
Cheryl Fossani	Scientist	July 14, 2013	July 21, 2013	F	EPA	American
Davie Nguyen	Scientist	July 14, 2013	July 21, 2013	M	EPA	American

G. Administrative

1. Points of Contacts:

I. Renee Searfoss, Chief Scientist
1650 Arch St. Philadelphia, PA 19103
215-814-2137
Searfoss.renee@epa.gov

II. Sherilyn Morgan
1650 Arch St. Philadelphia, PA 19103
215-814-2786
Morgan.sherilyn@epa.gov

III. LT Colin Kliewer, Operations Officer
NOAA Ship *Nancy Foster*
439 W York Street
Norfolk, VA 23510

2. Diplomatic Clearances

This project involves Marine Scientific Research in waters under the jurisdiction of the United States of America. Diplomatic clearance is not necessary.

3. Licenses and Permits

None of these projects require any state or federal permits.

II. Operations

A. Project Itinerary

Date	Time	Activity
7/12/13	tbd	<i>Nancy Foster</i> departs Charleston, South Carolina
7/14/13	1400	Scientific crew arrives in Norfolk, Virginia and embarks on <i>Nancy Foster</i>
7/14/13	1700	Leave Norfolk, Virginia

		Begin transit to Dam Neck Ocean Disposal Site (DNODS) Complete welcome aboard / risk management / health and safety briefings
7/18/13	2100	Begin DNODS sample collection
7/19/13	0300	Finish DNODS sample collection
7/19/13	0300	Begin EPA nutrient sampling heading south, then north
7/21/13	tbd	Continue collecting nutrient samples and ocean acidification samples until it is time to head south back into port
7/21/13	1100	Arrive in Norfolk, Virginia and disembark scientific Crew
7/21/13	tbd	<i>Nancy Foster</i> departs Norfolk, Virginia

B. Staging and Destaging

Staging and destaging should be relatively simple. The most cumbersome device brought on board will be the Van Veen sediment sampler. This is typically brought up the gangway unless NOAA directs EPA otherwise. All other pieces of equipment are brought onboard by hand, including sampling jars and travel bags. Staging will take approximately 1 – 1.5 hours.

Destaging is similar to staging and should also take approximately 1.5 – 2 hours, due to the heavy nature of all of the samples.

C. Operations to be Conducted

Dam Neck Ocean Disposal Site Survey

1. A total of fifty (50) locations will be sampled at the disposal (study) site and the designated control site. Sediment samples will be collected for the following analyses: grain size, total organic carbon (TOC), metals, and benthics. A minimum of two sediment grabs will be collected at each sampling location for sediment. A minimum of 7cm of sediment in the Van Veen is considered an acceptable sample for the benthic sample. Sediment <7cm will be used for the other analyses. Multiple drops will be

deployed until 7cm or greater is collected, or until a decision is made to move the station location.

2. A Hydrocast will also be performed at 10-20% of the randomly selected locations within each of the two study areas to determine physical/chemical water quality characteristics in the water column. A Secchi Disc reading may be obtained at those designated sampling sites occupied in daylight hours.

Coastal Eutrophication Locations

1. A series of coastal stations will be sampled from the North Carolina border to southern New Jersey. This project includes water quality samples only. Surface and samples in the middle of the thermocline (determined by each watch captain) will be collected at each of the stations to support and determine long-term nutrient trends. Hydrographic profiles will also be conducted and recorded at each station. Most of the stations are located approximately three miles away from the coastline, with the exception of four sample locations (control sites) that are situated approximately 20 miles off the coast. The offshore samples are used to determine background concentrations.

Ocean Acidification Study

1. Three transect areas have been identified. This project includes water quality samples only. The transects are numbered by order of priority, the first being the highest priority. Surface, mid-thermocline samples, and bottom samples will be collected at each of the locations along the transect. Hydrographic profiles will also be conducted and recorded at each station.

D. Dive Plan

I. Not Applicable.

E. Applicable Restrictions

EPA will follow the sea state and operating protocol that NOAA has in place for its vessels as the guidelines for all EPA operations while out to sea.

III. Equipment

- A. Equipment and Capabilities provided by the ship (itemized)
 - a. CTD (with capabilities for recording temperature, depth, salinity, dissolved oxygen (mg/L) – pH and PAR would be a plus), including rosette, niskin bottles, and ability to observe and record data electronically
 - b. Winch operator

- c. Assistance with CTD operations
 - d. Large freezer for samples
 - e. Large refrigerator for samples
 - f. A protected area to store 10 to 12 large Tupperware totes containing samples
- B. Equipment and Capabilities provided by the scientists (itemized)
- a. Van Veen sediment sampler
 - b. Associated weights for sampler
 - c. All sampling will be done by scientists
 - d. All supplies will be provided by scientists
 - e. Assistance with CTD operations
 - f. YSIs (6600 series)
 - g. PPE
 - h. Judgement calls on what is a “good sample”

IV. Hazardous Materials

A. Policy and Compliance

The Chief Scientist is responsible for complying with FEC 07 Hazardous Materials and Hazardous Waste Management Requirements for Visiting Scientific Parties (or the OMAO procedure that supersedes it). By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials - by name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and a chemical hygiene plan. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per FEC 07, the scientific party will include with their project instructions and provide to the CO of the respective ship 60 to 90 days before departure:

- A list of hazardous materials by name and anticipated quantity

EPA Region 3 will be bringing no more than 250 mL of mercuric chloride on board as a sample preservative for the ocean acidification samples.

EPA Region 3 will also be bringing approximately 20 one gallon containers of NONTOXhisto. NONTOXhisto is an aqueous alcohol solution used as a fixative with relative minor hazards. <http://www.scientificdevice.com/notoxhisto/>

- Include a chemical spill plan that addresses all of the chemicals the program is bringing aboard. This shall include:
 - Procedures on how the spilled chemicals will be contained and cleaned up.

- A complete inventory (including volumes/amounts) of the chemical spill supplies and equipment brought aboard by the program. This must be sufficient to clean and neutralize all of the chemicals brought aboard by the program.
- A list of the trained personnel that will be accompanying the project and the training they've completed.

The EPA Region 3 spill response plan, designated clean up crew and MSDSs for both mercurial chloride and NONTOXhisto are included in Appendices D, E, and F. An mercury spill pack containing pumps and neutralizing agents will also be brought on board by EPA Region 3 in the event that there is a spill.

Upon embarkation and prior to loading hazardous materials aboard the vessel, the chief scientist will provide to the CO or their designee:

- An inventory list showing actual amount of hazardous material brought aboard
- An MSDS for each material
- Confirmation that neutralizing agents and spill equipment were brought aboard sufficient to contain and cleanup all of the hazardous material brought aboard by the program.

Upon departure from the ship, the chief scientist will provide the CO or their designee an inventory of hazardous material indicating all materials have been used or removed from the vessel. The CO's designee will maintain a log to track scientific party hazardous materials. MSDS will be made available to the ship's complement, in compliance with Hazard Communication Laws.

Scientific parties are expected to manage and respond to spills of scientific hazardous materials. Overboard discharge of scientific chemicals is not permitted during projects aboard NOAA ships.

B. Radioactive Isotopes

EPA Region 3 does not work with, nor will they be bringing any radioactive isotopes onto the vessel.

V. Additional Projects

There are no additional projects during this survey that the Region is aware of.

VI. Disposition of Data and Reports

A. Data Responsibilities

EPA requests that all electronic data collected by the ship's CTD be accessible and transferred to EPA at the end of the survey.

B. Pre and Post Project Meeting

Prior to departure, the Chief Scientist will conduct a meeting of the scientific party to train them in sample collection and inform them of project objectives. Some vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Operations Officer.

Post-Project Meeting: Upon completion of the project, a meeting will be arranged and attended by the Commanding Officer, Operations Officer, and the Chief Scientist. Concerns regarding safety, efficiency, and suggestions for improvements for future projects should be discussed.

C. Ship Operation Evaluation Report

Within seven days of the completion of the project, a Ship Operation Evaluation form is to be completed by the Chief Scientist. The preferred method of transmittal of this form is via email to omao.customer.satisfaction@noaa.gov. If email is not an option, a hard copy may be forwarded to:

Director, NOAA Marine and Aviation Operations
NOAA Office of Marine and Aviation Operations
8403 Colesville Road, Suite 500
Silver Spring, MD 20910

VII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the survey.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship's complement. The Chief Scientist is responsible for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist to ensure that the entire scientific party has a

mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 7, 1999 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, Revised: 02 JAN 2012) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Chief Scientist or the NOAA website <http://www.corporateservices.noaa.gov/~noaaforms/eforms/nf57-10-01.pdf>. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health Services Office no later than 4 weeks prior to the project to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the form, and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic
439 W. York Street
Norfolk, VA 23510
Telephone 757-441-6320
Fax 757-441-3760
E-mail MOA.Health.Services@noaa.gov

Prior to departure, the Chief Scientist must provide an electronic listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

C. Shipboard Safety

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. Hard hats are also required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via e-mail and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required it must be arranged at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the OMAO Fleet IT Security Policy prior to establishing a direct connection to the NOAA WAN. This policy applies to all operating systems. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a full system virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of these requirements prior to boarding the ship is required.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

No foreign nationals are participating in this project.

Appendices

- A. Dam Neck Ocean Disposal Coordinates
- B. Nutrient Sample Locations
- C. Ocean Acidification Station Locations
- D. Spill Plan for Mercuric Chloride
- E. MSDS for Mercuric Chloride
- F. MSDS for NONTOXhisto

G. EPA Chain of Command and Emergency Notification